

INSTRUCTIONALModule

Project-Based Learning

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HOW DOES PROJECT-BASED LEARNING WORK?

Project-based learning, as with all lessons, requires much preparation and planning.

It begins with an idea and a "BIG question." When designing the project and the BIG question that will launch the activities, it is essential that one remember that many content standards will be addressed. With these standards in mind, devise a plan that will integrate as many subjects as possible into the project. Have in mind what materials and resources will be accessible to the students to assist them. Next, students will need to be given assistance in managing their time -- a definite life skill. Finally, have multiple means for assessing your students' completion of the project. Did the students master the content? Were they able to apply their new knowledge and skills? Many educators involve their students in developing these rubrics.

"We've got to know the curriculum. We've got to know the standards inside and out. Even though it looks like the kids are doing all the hard work, there's a lot of planning that goes on behind it to make sure that the work is there for them."

-- Patty Vreeland
Kindergarten and first-grade teacher
Newsome Park Elementary School
Newport News, Virginia

Steps for Project-Based Learning

- A. BIG Question
- B. Plan
- C. Schedule
- D. Monitor
- E. Assess
- F. Evaluate

"Questions may be the most powerful technology we have ever created. Questions and questioning allow us to make sense of a confusing world. They are the tools that lead to insight and understanding."

-- Questioning (2002)

Start With the BIG Question

The question that will launch a project-based learning lesson must be one that will engage the students. It is greater than the task at hand. It is open-ended. It will pose a problem or a situation that the students can tackle knowing that there is no ONE answer or solution. Take a real-world topic and begin an in-depth investigation. Base your question on a situation or topic that is authentic. What is happening in your classroom? In your community? Make it one that students can feel that they are making an impact by answering the question or solving the problem. Make it relevant for your students. The question should be a "NOW" question -- a question that has meaning for the students in their lives at this moment in time.

Design a Plan for the Project

When designing the project, it is essential that you have in mind which content standards will be addressed. Involve the students in the planning process. Students feel ownership of the project when they have an active role in the decision making for the activities. Select activities that support the question utilizing the curriculum, thus fueling the process. Integrate as many subjects as possible into the project. Know what materials and resources will be accessible to the students to assist them. Be prepared to delve deeper into new topics and new issues that arise as the students become more and more involved in the active pursuit of answers.

Create a Schedule

Design a timeline for project components. Realize that changes to the schedule will happen. Be flexible, but help the students realize that a time will come when they need to finalize their thoughts, findings, and evaluations.

- What time allotment will be given to the project?
- Will this project be conducted during the entire school day or during dedicated blocks of time?
- How many days will be devoted to the project?

Help students who may not perceive time limits. Set benchmarks. Give students direction for managing their time. Teach them how to schedule their tasks. Remind them of the timeline. Help them to set deadlines. Keep it simple and age-appropriate. The "BIG question" acts as a catalyst. Initiate projects that will let all students meet with success. Allow students to go in new directions, but guide them when they appear to be going in a direction that has no connection to the project. When a group seems to be going in a different direction, have the students explain their reasoning behind their actions. They may have an insight to the "solution" that you haven't seen. Help the children to stay on course -- the path to knowledge -- but don't accidentally set limitations.

"As the number of ideas to consider or the number of procedures that need to be followed increases, students may need to stay organized, track their progress, and maintain a focus on the problem rather than get confused by its elements."

-- P. Blumenfeld and colleagues
(1991)

Monitor the Students and the Progress of the Project

Facilitate the process and the love of learning. Teach the students how to work collaboratively. Designate fluid roles for group members. Have students choose their primary roles but assume responsibility and interactivity for all group roles. Remind them that every part of the process belongs to each individual and needs each student's total involvement. Provide resources. Provide guidance. Assess the process. Create rubrics -- team rubrics and project rubrics.

- Team rubrics state the expectations of each team member. Watch the group dynamics. How well are the members participating? How engaged are they in the process? Assess the outcome.
- Project rubrics ask: What is required for project completion? What is the final product: A word processed document? A multimedia presentation? A poster? A combination of products? What does a good report/multimedia presentation/poster/product look like? Make the requirements clear to the students so that all can meet with success.

Assess the Outcome

Assessment meets many needs. It provides diagnostic feedback. It helps educators set standards. It allows one to evaluate progress and to relate that progress to others. It gives students feedback on how well they understand the information and on what they need to improve. Assessment also helps the teacher design instruction to teach more effectively. Whenever possible, give the students the opportunity to do self-assessment. When a student's assessment and the teacher's assessment don't agree, it's a perfect time for a student-teacher conference. These conferences let the student explain in more detail his or her understanding of the content and justify the outcome.

Evaluate the Experience

In the busy schedule of the school day, there is often little time for reflection. Yet, reflection is a very important part of the learning process. How do we expect our students to be able to synthesize their new knowledge if they are not given time to reflect upon what they have discovered? Too often, we teachers do not allow ourselves the time to reflect, as well. Set a time that is designated for reflection of the daily activities. Allow for individual reflection, such as journaling, as well as group reflection and discussion. (Validate what they learned and make suggestions for improvements, or things they wish they had done.)

- Take time to reflect, individually and as a group.
- Share feelings and experiences.
- Discuss what worked well.
- Discuss what needs change.
- Share ideas that will lead to new questions, thus new projects.

"Project-based learning is ... focused on teaching by engaging students in investigation. Within this framework, students pursue solutions to nontrivial problems by asking and refining questions, debating ideas, making predictions, designing plans and/or experiments, collecting and analyzing data, drawing conclusions, communicating their ideas and findings to others, asking new questions, and creating artifacts (e.g., a model, a report, videotape, or computer program)"

-- P. Blumenfeld and colleagues (1991)

The following Web site(s) appear on this page:

BIG Question: www.questioning.org/module/module1.html

Rubrics: school.discovery.com/schrockguide/assess.html